

**IN THE ABSTRACT OF THE DISCLOSURE**

Replace the Abstract of the Disclosure currently of record with the attached new Abstract of the Disclosure.

An error of reception data is corrected using check matrixes for an “Irregular-LDPC code” that are definite and have stable characteristics and a part of shared information is discarded according to error correction information opened to the public. A parity check matrix corresponding to a specific coding rate is extracted from parity check matrix optimized at a coding rate in a desired range while a coding rate is lowered until the error of the reception data is completely corrected, an additional syndrome is generated, and error correction processing is repeatedly executed using the additional syndrome.